



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,644	11/24/2003	Akiyoshi Chosokabe	Q78560	1192
23373	7590	11/16/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			YANG, ANDREW GUS	
			ART UNIT	PAPER NUMBER
			2671	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/718,644	Applicant(s) CHOSOKABE, AKIYOSHI	
	Examiner Andrew Yang	Art Unit 2671	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 6 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim discloses an information storage medium for storing a program for causing a computer to function.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randel (U.S. Patent No. 6,362,822) in view of Drebin et al. (U.S. Patent No. 6,639,595).

With respect to claims 1 and 5-6, Randel discloses a computer system configured to generate and display interactive 3D graphics (column 5, lines 52-53), which renders a scene 10 in Fig. 2 including a 3D object 12 in Fig. 2, field-of-view associated with camera 14 in Fig. 2, and light sources 16 and 18 in Fig. 2 (column 6, lines 29-40). Randel also discloses a world space coordinate system 20 in Fig. 2 with x, y, and z coordinates, employed to define the spatial relationship between the 3D object, light sources and camera. Therefore, it is deemed inherent that there exists a light

source, viewpoint position, and viewing direction acquisition means in order to define the spatial relationship. However, Randel does not disclose a highlight position, highlight intensity calculation means, semitransparent composition means, or input display means for displaying the composite image.

Drebin et al. disclose a lighting method in which, a 1D texture map 308(6) shown in FIG. 10B includes four different types of texels (yellow, orange, red and brown) which could be used to provide bold cartoon-like lighting effects where, for example the angle a directional light makes with an object or the distance of an object from a light source determines the color resulting from the output of texture mapping operation 306 in Fig. 7 (column 11, lines 10-17). It would have been obvious that the lighting effects can include a highlight effect, as putting a highlight on a 3D object is well known in the art, and the effect depends on the viewpoint and light source positions. It also would have been obvious to provide a semitransparent composition rate corresponding to the intensity of the highlight on the 3D object because different light source distances and angles result in varying light intensities for the 3D object.

Randel and Drebin et al. are analogous art in that they are in the same field of endeavor, namely displaying 3D computer graphics.

At the time of the invention, it would have been obvious to one skilled in the art to include the lighting method as taught by Drebin et al. in the Randel for the benefit of providing a highlight from the light source onto the 3D object with minimal complexity. It would have been obvious to display the highlight effect composite on the 3D object for the effect to be visible in the scene.

With respect to claims 3-5, Drebin et al. disclose a lighting method in which, a 1D texture map 308(6) shown in FIG. 10B includes four different types of texels (yellow, orange, red and brown) which could be used to provide bold cartoon-like lighting effects where, for example the angle a directional light makes with an object or the distance of an object from a light source determines the color resulting from the output of texture mapping operation 306 in Fig. 7 (column 11, lines 10-17). It would have been obvious that the lighting effects can include a highlight effect, as putting a highlight on a 3D object is well known in the art, and the effect depends on the viewpoint and light source positions.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patent is cited to further show the state of the art with highlighting objects in 3D computer graphics:

U.S. Patent No. 5,872,572 to Rossignac for a rendering engine performing lighting calculations dependent on the light source position and viewpoint

U.S. Patent No. 5,990,894 to Hu et al. for a method of providing realistic lighting effects dependent on the light source position and viewpoint

U.S. Patent No. 6,043,820 to Limura et al. for a 3D computer graphics display method dependent on the light source position and viewpoint

U.S. Patent No. 6,384,833 to Denneau et al. for a computer graphics lighting system dependent on the light source position and viewpoint

Illumination and Color in Computer Generated Imagery by Roy Hall for illustrating the effect of putting a highlight on a 3D object.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Yang whose telephone number is (571) 272-5514. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGY

11/10/05

  
RICHARD HJERPE 11/14/05  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600